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Automation of Higher Education Sector in India: An Ethical Dilemma

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Abstract

Over the years, Indian higher education system underwent many changes to take the current shape which is expected to change further in future. Education is considered to be the backbone of any civilization. To offer the facility of higher education in India, private model was introduced along with public model. With the advent of computers, higher education became technology driven to some extent where students, teachers, administrators started enjoying the classroom interaction more intensive. Furthermore, introduction of internet into higher education started changing the pattern of education in a rigorous way. Now-a-days, the exposure of Artificial Intelligence (AI) opened the flood gate of higher studies to an extreme level. The study was aimed to identify the impact of automation of higher education sector in India to help building knowledge, skill sets and preparing the students for the job market. An ethical issue is pertinent to the automation of higher education to explore its abundant use. An exploratory research was carried out in the Southern part of West Bengal following a survey using purposive sampling technique, where responses were collected from various colleges and universities of both public and private mode. The study found that irrespective of public and private mode, students are at the crossroads to understand the real benefit of using automated system of higher education although they are randomly using them. Faculty members as well as academic administrators found the automated system has eased their manual work load as well as their flexibility to work. The purpose of higher education ideally should not be degree oriented but to cultivate the needed skill by the society or by the nation if not globally. The study concludes that using only automated system for study at higher education level may not serve the cause, hence, these systems may be taken as an auxiliary support and not the primary source to enhance the learning process.

Keywords: Automation, higher education, ethical issues, West Bengal, college, university.

Introduction:

Education is backbone of any community. In Indian culture and heritage, education formally started way back to 427 CE at Nalanda by establishing world's first residential university and is believed to have 10,000 students and 2000 teachers. In Vedic ages educational system was rooted in the Guru-Shishya tradition where teachers imparted knowledge to students in Vedic schools and Ashrams. Vedic period marks the dawn of India's intellectual and cultural heritage. The Vedic education aimed to produce individuals with a strong sense of duty, morality and intellectual curiosity, laying the foundation for India's rich educational heritage. As the days passes by, the structure of formal educational system underwent

many changes. During the British regime in India, they introduced a refined formal system of education to produce a class of Indians who would serve in administrative and clerical positions. After independence Indian higher education system further underwent various changes with the establishment of University Grant Commission (UGC) during late 60s. Female students were encouraged to participate in education system along with their male counterparts. Various new courses and subjects were introduced. With the advent of computers in higher education during late 80s, education system started changing its dimension both in the front of learning, teaching and administration. Writing, computing, presenting a topic, overhead projector, floppy disk, pen drive, etc. were introduced to reduce the manual work and to use quality time on other important issues in academics. Initially hesitating, but slowly students, teachers and academic administrators adjusted with these electronic instruments into their system. Classroom interaction becomes more vibrant and productive. During late 90s internet was introduced and opened the floodgate of getting information from anywhere around the globe and on any topic. This has slowly started affecting higher education in India. Students, teachers can access any book or study materials at ease and get enriched. But by that time internet was confined to desktop computers only. Later laptop, palmtop came into picture and recently with the introduction of mobile phones, anyone can access internet at any point of time. This has revolutionized the higher education system. Students, teachers, academic administrators can make them available electronically through so many online platforms, teachers can take their classes online, students can avail their classes online even examinations can be conducted online. This results that higher education in India is no longer confined to classrooms only, it becomes a Pan-India affair if not more. Now the wave of Artificial Intelligence (AI) has mesmerized the globe with its pin-point accuracy of repetitive works and higher education is included in to it. If some types certain key words, through AI one can get a project report, a study material, class notes and so on. The current study focuses on the aspect of automation in higher education and tries to evaluate the effectiveness of automation to build up skill sets among the students through current mode of learning.

Literature Review:

In the paper titled “Navigating the Future: The Ethical, Societal and Technological Implications of Artificial Intelligence “by A. Kumar and L. Kumar (2024) pointed out that artificial intelligence stands at the forefront of technological innovation, weaving its capabilities into the fabrics of everyday life and revolutionizing industries with unprecedented pace and efficiency. In the realm of e-commerce and marketing, AI-powered Chatbot and personalized recommendation systems have transformed customer service and user engagement, making them more interactive and tailored to individual preferences. They stressed that AI integration is fraught with challenges. Ethical concerns, such as bias, privacy and the potential for job displacement loom large.

In the paper titled “Legal Implications of Artificial Intelligence: Navigating the Future of Automation and Ethics” by U. B. Karpe & J. Khandare (2024) mentioned in their paper the need for proactive collaboration among policymakers, legal experts, technologists, and civil society to develop robust governance structures that promote the responsible and ethical use of AI while safeguarding individual rights and societal values.

In the Ph. D. thesis titled “An Analytical Study of the Ethical Problems in India's Digital Service Sector and their Impact on Attrition in the IT Industry” by S. K. More (2018) mentioned that ethical problems are causing high staff attrition rates within the digital service sector (DSS) in India.

In the paper written by K. G. Donna e*tal* (2022) titled "The Impact of Automation on the Future of Work and Higher Education" mentioned that until the turn of the 21st century, higher education was impervious to technological change. Faculty would lecture to students in person, assign readings, and conduct assessments designed to result in credentials that would be used in the labour market. The rise of the internet and related technologies has transformed higher education and the labour market in new and interesting ways. They also mentioned that Artificial intelligence is skill-biased, meaning that higher education will be needed to obtain the jobs of the future. They further mentioned that the world is awash in data, and the skills taught by social scientists will prepare our students for high-demand occupations such as data scientists. Data scientists will benefit from a firm understanding of social science in order to prevent AI algorithms from reinforcing the bias and inequality that exists in society.

Research Gap & Motivation:

The above mentioned literatures exhibited vital insights about the implications of Artificial Intelligence in various fields. But none of the literatures mentioned the impact of automation in higher education in India. As we are engaged with higher education for a long time, we found the topic to be a pertinent one with respect to the current scenario, particularly to higher studies.

Research Objective:

In this study primarily we will try to identify the implication of automation in higher education in India and subsequently we will try to understand the impact of automation in higher education to prepare students' requisite skillset required for the job.

Research Questions:

1. Is automation in higher education essential?
2. Is automation reducing the focus of the classroom interaction?
3. Is automation helping students to prepare for the job market?
4. Is automation of higher education is ethical?

Research Methodology:

This is an exploratory research carried out in the Southern part of West Bengal consisting of colleges and universities both under public and private undertakings. The study was carried out following a purposive sampling technique consisting of four strata consisting of students, teachers, academic administrators and parents. Responses from these four strata were collected with primary investigation using a well-constructed questionnaire availing both offline and online operations. We have interrogated 104 respondents comprised of post-graduate students, faculty members, academic administrators from various colleges and universities.

After collecting the responses, we exposed them to various statistical tools to analyse them, and based on the results we derived from the statistical analysis, we drew conclusion and put forward some suggestions henceforth.

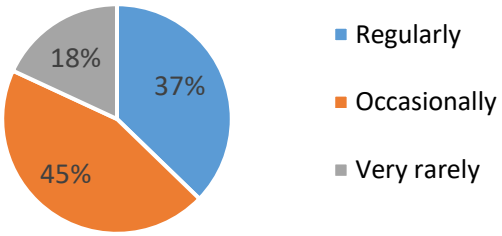
Results and findings:

Demographic description of the respondents: The age bracket of the students was 22 – 29 years and they were studying at post-graduate level. 76% of the students were male in gender and rests were female.

Faculty members were mostly experienced in teaching in which around 50% teacher carried teaching experience 5 – 15 years whereas remaining 50 carried teaching experience more than 15 years, and some faculties carried more than 25 years of teaching experience. Teachers were from the field of science, arts, commerce and business administration subjects. Among the academic administrators, majority of them were male and their work experience was a mixture of less proficient and vastly experienced. They were working admission, accounts, administration and placement. Comprising all the features of the sample, we can infer that the sample is well-experienced in terms of the topic under the study. Therefore, their opinions can be considered as authentic.

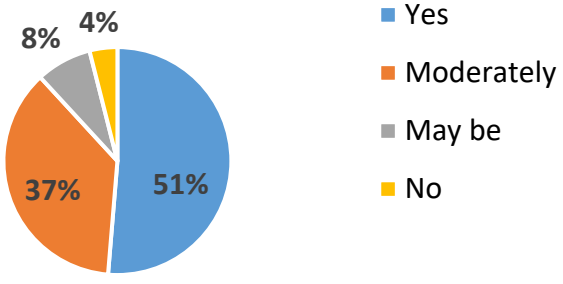
From the collected information it is found that 93% of the respondents comprised of students, teachers and academic administrators are well-aware of the automated instruments introduced in higher education. They are using various automated instruments like Google classroom, Google Meet, Microsoft Team, Zoom, Chat GPT, Chatbot and other instruments.

Figure 1: Frequency of using automated instruments



From the Figure 1, it is evident that 63% of the respondents are using these instruments occasionally or rarely depending upon their requirements. This clarifies the fact that, they do not believe these instruments to be absolutely essential. In other words, it can be said that these automated system is partially accepted by the students as well as teachers and academic administrators.

Figure 2: Effectively easing higher education



From Figure 2, we have found that almost 50% of the respondents (students) found the automation of higher education is partially eased their learning process while attending offline classes. This means, they prefer to have offline classroom interactions more than automated system from where they may also learn. This in turn, making the students partially perplexed about the correct way of learning and as a result of that their focus from the offline classes are slightly disoriented.

Figure 3: Improving the learning process following automated system (Students)

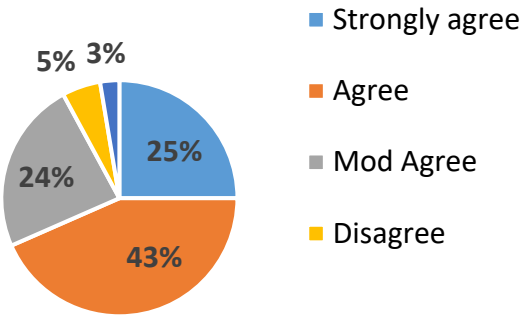
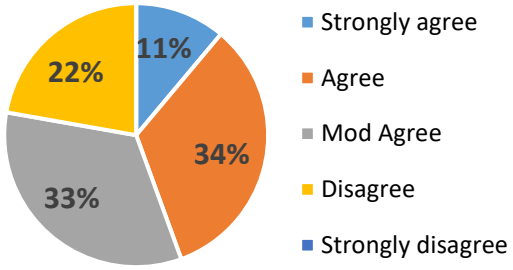


Figure 3 has reflected the same repercussion as of Figure 2, as 75% students do not strongly believe that automated system of higher education has improved their learning process. This means that either they got benefitted while preparing their study materials or preparing themselves for examination. This is the hindrance faced by the students who are at the crossroads of traditional system and automated system of higher education to enhance their learnings to build up knowledge.

Fig. 4: Automation offers more flexibility in teaching (Teachers)



From the responses, teachers opined that more than 80% believed that automation of higher education has not given them flexibility in teaching process as many of the cases it appears to be a hindrance to them, rather they preferred offline teaching is more effective than online teaching. Moreover, they also opined that they can provide online tutorial or classes at any point of the day, but offline classes were more effective.

Fig. 5: ChatGPT, Chatbot is mandatory for higher education

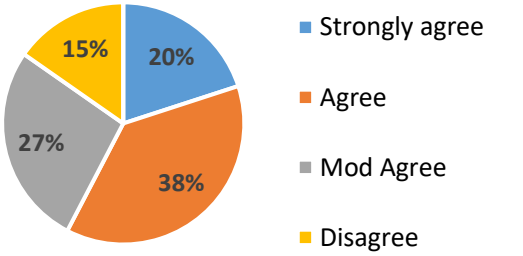
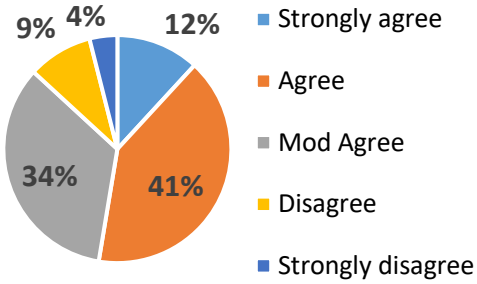


Figure 5 on the other hand exhibited the combined opinions of students and teachers regarding the mandatory inclusion of ChatGPT and Chatbot as an automated instrument in higher education. It shows that 58% agreed that they should be included while rest are still in dilemma. This explains that students preferred these instruments as very handy and readymade to use to explore anything with a single click. Faculty members also believe the same but in a different way. Teachers suggested to these instruments to enrich the learning process whereas students are using

	the same not in the same way. Hence, the real gap of learning sometimes become prominent.

Fig. 6: Automated instruments help finding preferred job (Student) 	Figure 6 is exhibiting the effective use of online instruments to get a job after completing the course. 53% of the students said yes while rests are not that much sure, meaning the confidence to get a preferred job using ChatGPT or Chatbot is in dilemma. And when students were interrogated about the areas where want to use these online instruments, 65% of the students opined that it helps improving their theoretical knowledge, which contradicts with the opinions related to get a preferred job. In professional domain, theoretical knowledge has to be supported by technical skills otherwise the employment remains strained. So combining these two contradictory results, we can conclude that students really do not know whether these online instruments really helping them to get their preferred job.

When we extensively interrogated academic administrators (admission staffs, accounts staffs, placement staffs, administrators) we found that these online instruments like various calling Apps, Google Meet, Zoom, etc. have eased their workload and they have gained their productivity (Fig.7). Faculty members also got benefitted to use them, as they can deliver their lessons in a more effective way to their target audience (Fig. 8). These results showed that for teachers or for academic administrators, these online instruments are effective as they know their job role, and instead of manually using them, these online apps help them to save time to be used on other aspects of their profession.

Fig. 7: Automated instruments have improved productivity

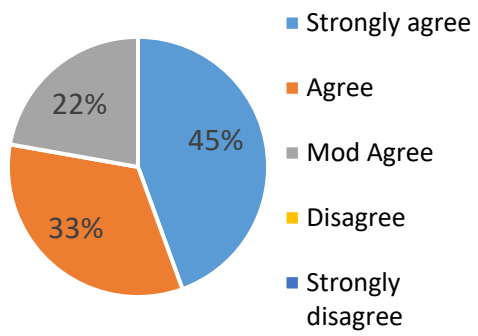
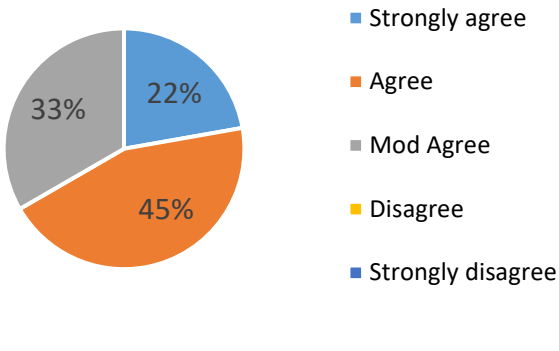


Fig. 8: Enhanced effective teaching skill using automated instruments



But when we are clubbing the above results with the students, the we have seen from the results that students' real learning to enhance their skills remained incomplete using these online automated instruments.

Conclusion:

From the above finding and their interpretations, we may conclude the followings as:

- Automation of higher education is not essential for students as it may demine the effective learning and skill building activity; for teachers or even for academic administrators these online instruments have eased their manual efforts which in turn improved their productivity;
- Automation of higher education has definitely reduced the focus on classroom learning as students started believing that they can avail the knowledge from online sources which most of the cases causing problems to understand their real learning to upgrade their skill level. In many cases, the study found that teacher as well as academic administrators were not comfortable and flexible to use these online instruments as they were compelled to do that. But no doubt, these online instruments gave them the extra edge to exercise them even when they were at home.
- Automation of higher education apparently help the students to get their preferred job in most of the cases as they found it difficult to support their theoretical knowledge with the help of their acquired skill through online instruments. Teachers and academic administrators were benefitted to enhance their skills and productivity by using the online automated instruments.

At higher education, the aim of all the stakeholders is to improve and grow the real knowledge and skill building so that students especially can nurture their talents in real time situation. The study identified a mismatch of real learning and skill building with the help of automated learning system if not fully, but partially. This is unethical from the point of view of educating our future generation as they deserve the best for their life and from the best possible way. Online automated learning tools may be used on auxiliary purposes but should not be followed blindly. There is no alternative of offline teaching whatever the instruments may be available nowadays to compensate that. So we can conclude that automation of higher education is partially unethical and should be handled very carefully without compromising the purpose of education.

Combining all the above facts it seems that the automated system of higher education has opened up the floodgate of information across the globe where any person with an internet connection can access the

vast pool of information at ease. For students, this automated system, in most of the cases find it very convenient to access this information to fulfil their academic requirements. The purpose of education especially at higher level is not only to enhance knowledge to build up their skill sets but also to relate their knowledge with the need of them and for the society. In that case we can say that these internet-based automated instruments may not be overwhelmingly accepted by the students to understand the real benefit derived from them. In offline mode a teacher can understand whether a student has understood any discussed topic which is sometimes difficult to understand in online mode of teaching. So these automated systems can be considered as a facilitator but it is diluting the essence, intensive learning and integrity.

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